

In the Claims

Claims 1-30 have been canceled.

31. [Currently Amended] A removable electrical interconnect apparatus for removably engaging electrically conductive pads on a semiconductor substrate having integrated circuitry fabricated therein, the apparatus comprising:

a substrate; and

an engagement probe projecting from the substrate to engage a single conductive pad on a semiconductor substrate having integrated circuitry formed in the semiconductor substrate, the engagement probe having an outer surface comprising an apex in the form of [at least one] a knife-edge line and comprising semiconductor material and configured to removably [engage the] penetrate a single conductive pad of the semiconductor substrate comprising [operable] integrated circuitry and to removably [engage] penetrate another single conductive pad of another semiconductor substrate also comprising [operable] integrated circuitry.

32. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the engagement probe is formed on a projection from the substrate.

33. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the knife-edge line projects from a penetration stop plane.

34. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the knife-edge line projects from a penetration stop plane, the knife-edge line having a tip and having a base at the penetration stop plane, the tip being a distance from the penetration stop plane of about one-half the thickness of the conductive pad which the apparatus is adapted to engage.

35. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the engagement probe is formed on a projection from the substrate, the knife-edge line projecting from a penetration stop plane on the projection.

36. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the engagement probe is formed on a projection from the substrate, the knife-edge line projects from a penetration stop plane on the projection, the knife-edge line having a tip and having a base at the penetration stop plane, the tip being a distance from the penetration stop plane of about one-half the thickness of the conductive pad which the apparatus is adapted to engage.

37. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein outermost portions of the apex comprise a first electrically conductive material, and wherein the conductive pads for which the apparatus is adapted to engage have outermost portions comprising a second electrically conductive material; the first and second electrically conductive materials being different.

38. [Currently Amended] The removable electrical interconnect apparatus of claim 31 wherein the engagement probe [is formed from] comprises material of a bulk semiconductor substrate.

39. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the knife-edge line includes an outer conductive layer.

40. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the outer surface includes plural knife-edge lines configured to engage the single conductive pad.

41. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the engagement probe is formed from a semiconductor substrate and the

outer surface includes plural knife-edge lines configured to engage the single conductive pad.

42. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the engagement probe is formed from a semiconductor substrate and the outer surface includes plural knife-edge lines configured to engage the single conductive pad and the knife-edge lines include outer conductive layers.

Claims 43-53 have been canceled.

54. [Currently Amended] A removable engagement probe having an outer surface comprising an apex in the form of [at least one] a knife-edge line and comprising semiconductor material and sized and positioned to [engage] penetrate a single conductive pad; and

wherein the knife-edge line projects from a penetration stop plane.

55. [Currently Amended] The removable engagement probe of claim 54 wherein the [at least one] knife-edge line is formed on a projection from a substrate.

56. [Previously Presented] The removable engagement probe of claim 54 wherein the outer surface comprises a plurality of apexes having respective tips and bases, and the penetration stop plane is intermediate the bases and substantially parallel to a surface of a substrate.

57. [Previously Presented] The removable engagement probe of claim 54 wherein the knife-edge line has a tip and has a base at the penetration stop plane, the tip being a distance from the penetration stop plane of about one-half the thickness of the conductive pad which the apparatus is adapted to engage.

58. [Previously Presented] The removable engagement probe of claim 54 wherein the knife-edge line is formed on a projection from a substrate and projects from the penetration stop plane on the projection.

59. [Previously Presented] The removable engagement probe of claim 54 wherein the knife-edge line is formed on a projection from a substrate and projects from the penetration stop plane on the projection, the knife-edge line having a tip and having a base at the penetration stop plane, the tip being a distance from the penetration stop plane of about one-half the thickness of the conductive pad which the apparatus is adapted to engage.

60. [Previously Presented] The removable engagement probe of claim 54 wherein outermost portions of the apex comprise a first electrically conductive material, and wherein the conductive pad for which the probe is adapted to engage has outermost portions comprising a second electrically conductive material; the first and second electrically conductive materials being different.

61. [Currently Amended] The removable engagement probe of claim 54 wherein the probe [is fabricated from] comprises material of a bulk semiconductor substrate.

62. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the knife-edge line is sized and positioned to extend elevationally above an uppermost surface of the substrate.

63. [Previously Presented] The removable electrical interconnect apparatus of claim 32 wherein the projection includes a surface substantially parallel to a surface of the substrate.

64. [Previously Presented] The removable engagement probe of claim 54 wherein the knife-edge line projects elevationally above an uppermost surface of a substrate which defines the penetration stop plane.

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65. [Currently Amended] The removable [electrical interconnect apparatus] engagement probe of claim 55 wherein the projection has a surface substantially parallel to a surface of a substrate and which defines the penetration stop plane.

66. Canceled.

67. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the substrate comprises semiconductor material.

68. [Previously Presented] The removable electrical interconnect apparatus of claim 31 wherein the substrate comprises a semiconductor substrate and the engagement probe comprises semiconductor material of the semiconductor substrate.

69. [Previously Presented] The engagement probe of claim 54 wherein the engagement probe comprises semiconductor material.

70. [Previously Presented] The engagement probe of claim 54 wherein the engagement probe comprises semiconductor material formed from a semiconductor substrate.

71. Canceled.

72. Canceled.

73. Please cancel.

74. Please cancel.

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75. [New] The removable electrical interconnect apparatus of claim 31 wherein the apex comprises a solid mass of material devoid of any void space.

76. [New] The removable engagement probe of claim 54 wherein the apex comprises a solid mass of material devoid of any void space.

77. [New] An electrical system comprising:

a first electrically conductive pad on a first semiconductor substrate comprising integrated circuitry formed using the first semiconductor substrate;

a second electrically conductive pad on a second semiconductor substrate comprising integrated circuitry formed using the second semiconductor substrate; and

a removable electrical interconnect apparatus for removably engaging the first and second electrically conductive pads, the apparatus comprising:

a substrate; and

an engagement probe projecting from the substrate to engage the first electrically conductive pad, the engagement probe having an outer surface comprising an apex in the form of a knife-edge line and comprising semiconductor material and configured to removably engage the first electrically conductive pad and to removably engage the second electrically conductive pad.

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78. [New] The electrical system of claim 77 wherein the apex is configured to penetrate the first and the second electrically conductive pads.

79. [New] An electrical system comprising:

a single conductive pad;

a removable engagement probe having an outer surface comprising an apex in the form of a knife-edge line and comprising semiconductor material and sized and positioned to engage the single conductive pad; and

wherein the knife-edge line projects from a penetration stop plane.

80. [New] The electrical system of claim 79 wherein the apex is configured to penetrate the single conductive pad.